

MARCH 1961 — 9
VOLUME 87

NO. IR 1
PART 2

Your attention is invited

**NEWS
OF THE
IRRIGATION
AND
DRAINAGE
DIVISION
OF
ASCE**



**JOURNAL OF THE IRRIGATION AND DRAINAGE DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS**



DIVISION ACTIVITIES

IRRIGATION AND DRAINAGE DIVISION

Proceedings of the American Society of Civil Engineers

NEWS

March 1961

Purpose of the Irrigation and Drainage Division

"To promote advancement in thought and practice in the field, to clarify fundamental principles, to disseminate knowledge of current practice and the results obtained therefrom, and to bring about closer acquaintance of those engaged in irrigation and drainage engineering. The field of work of the Irrigation and Drainage Division includes all engineering concerned with the application of water to land or the removal of water therefrom and all of the technical, economic, and social aspects of the association of engineering with these problems. In brief, it covers all phases of irrigation, drainage, and reclamation of lands."

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Executive Committee

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7024 Melrose Avenue, Los Angeles 38, California
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Note.—No. 1961-9 is Part 2 of the copyrighted Journal of the Irrigation and Drainage Division, Proceedings of the American Society of Civil Engineers, Vol. 87, No. IR 1, March, 1961.

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Calendar of Events

April 10-14, 1961. National Convention, ASCE, Phoenix, Arizona, Hotel Westward Ho. The Irrigation and Drainage Division plans to sponsor five technical sessions as part of a week-long coordinated program devoted to water resources. One technical session will be sponsored jointly with the Sanitary Engineering Division and one jointly with the Water Ways and Harbors Division. The Phoenix convention will constitute the Irrigation and Drainage Division technical conference for 1961.

June 12-15, 1961. Symposium on Water Resources and Reclamation, Colorado State University, Fort Collins, Colorado, sponsored by U. S. Bureau of Reclamation, Colorado State University and A.S.C.E.

June 26-July 2, 1961. 7th Congress, International Committee on Large Dams, Rome, Italy.

October 16-20, 1961. National Convention, ASCE, New York, Hotel Statler. No Irrigation and Drainage Division sessions.

February 19-23, 1962. National Convention, ASCE, Houston, Texas, Hotel Shamrock.

May 1962. National Convention, ASCE, Omaha, Nebraska.

October 15-19, 1962. National Convention, ASCE, Detroit, Michigan.

March 1963. National Convention, ASCE, Atlanta, Georgia.

October 1963. National Convention, ASCE, San Francisco, California.

The Irrigation and Drainage Division plans to sponsor four half-day sessions at the Houston, Omaha, Detroit, and Atlanta conventions and six sessions at the San Francisco convention. A number of general topics and specific papers already have been proposed for some of these meetings; any further suggestions should be sent to Herbert Prater or Paul Berg, Chairman and Vice-Chairman, respectively, of the Committee on Session Programs.

* * * * *

NOVEMBER MEETING -- EXECUTIVE COMMITTEE

The Executive Committee met in Denver November 4 and 5, 1960 to discuss matters relating to the activities of the Division. The group decided it would be desirable for members of the committee to serve as contact members with the committees of this Division. These members assigned to the various committees are as follows:

<u>Member</u>	<u>Committee</u>
N. A. Christensen	Committee on Cooperation with Local Sections, Research
H. E. Prater	Sessions Programs, Consolidation and Progressive Betterment of Old Irrigation Systems
W. W. Donnan	Drainage of Irrigated Lands, Water Conservation
Kenneth Volk	Groundwater, Droughts
Paul Berg	Publications, Irrigation and Drainage Practices in Humid Areas

The Executive Committee also agreed on new members to be added to several committees and accepted resignations from members wishing to be dropped from committees as follows: (These constitute revisions to the committee members as published in the December 1960 Newsletter.)

New Members

Publications	Sol D. Resnick, Tucson, Arizona
Ground Water	Fred L. Hotes, Lafayette, Calif.
Irrigation & Drainage Practices in Humid Areas	Alfred R. Golze', Chevy Chase, Md.
Task Committee on Water Rights in States in Humid Areas	Robert L. Hardman, Trenton, N.J.
Task Group on Methods of Conserving Water	Martin R. Huberty, Los Angeles, Calif.

Resigning Members

Ground Water	Robert O. Thomas, Sacramento, Calif.
Irrigation & Drainage Practices in Humid Areas	Leo F. Reynolds, Memphis, Tennessee Paul H. Berg, McCook, Nebraska
Task Committee on Water Rights Laws in States in Humid Areas	James I. Seay, Jr., Memphis, Tenn. John J. Ledbetter, Austin, Texas George R. Shanklin, Trenton, N. J. Robert L. Smith, Topeka, Kansas
Task Group on Methods of Conserving Water	Gerald E. Carlat, Monterey Park, Calif.

A resolution for organization and staffing of new committee on "Droughts" was passed by the Executive Committee. The objective of the Droughts Committee is as follows:

"To study the nature and occurrence of cyclic and prolonged droughts and to compile information on the effect of these droughts on irrigation water supply, irrigation design and irrigation practices."

The following members were assigned to the Droughts Committee: John Bliss, Chairman; J. E. Christiansen, Vice-Chairman; Walter Hoffman, Howard Critchlow, and Harry Potts.

The Executive Committee reviewed the activities of the various administrative and technical committees and were of the general opinion that there is reasonably good progress being made. At a joint meeting with the Research Committee three principal items were discussed, as follows:

- (1) The feasibility of having an abstracting service in the field of water.
- (2) Preparation of an annual report entitled, "Irrigation and Drainage Research in the United States."
- (3) The promotion of two projects concerning (a) method of reducing reservoir evaporation, and (b) development of low cost hydraulic structures for use in both conveyance systems and farm distribution systems.

The Executive Committee favored the proposed pilot issue of an abstract in the field of water and favored the preparation of an annual report on "Irrigation and Drainage Research in the United States." It further agreed to encourage and support activities toward the promotion of research in the two projects listed in item (3) above.

It was agreed that there should be closer coordination between the Irrigation and Drainage Division and the United States National Committee of the International Commission on Irrigation, Drainage and Flood Control. As a result of this discussion, the committee met with representatives of the United States National Committee on November 5, and it was agreed that a joint committee made up of Herbert Prater and Paul Berg, for the Irrigation and Drainage Division, and Wendell Johnson and Royce Tipton, for the United States National Committee, would explore the possibility of holding cooperative technical sessions at the Omaha Convention in May 1962.

The Executive Committee also was in general agreement as to the desirability of a study conference for graduate engineers with particular emphasis on an irrigation and drainage engineering curricula study conference.

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IRRIGATION AND DRAINAGE PROGRAM FOR PHOENIX CONVENTION

Place: Phoenix, Arizona Time: April 10-15, 1961

Presiding Officer: Kenneth Q. Volk, Chm., I. & D Div., ASCE

Title: Consulting Engineer

Address: 7024 Melrose Avenue, L. A. 38, Calif.

Sponsoring Committee: Irrigation and Drainage Division of ASCE

Date: April 10, 1961--Monday A.M.

Theme: Conservation

Session Chairman: N. A. Christensen, Program Chm., I & D. Div., ASCE

Title: Director of School of Civil Engineering

Affiliation: Cornell University, Ithaca, N. Y.

Address: 412 Hanshaw Road

1. Speaker: Carl R. Wilder

Title: Regional Conservation Engineer

Affiliation: Portland Cement Assn., Western Region

Address: 816 West 5th Street, Los Angeles, Calif.

Subject: "Lower Cost Canal Linings Through Mechanization"

2. Speaker: Dr. Harold Wilm

Title: N. Y. State Commissioner of Conservation

Affiliation: State of New York

Address: Conservation Dept., Albany, New York

Subject: "Water Supply and Flood Forecasting"

3. Speaker: A. L. McComb

Title: Head of Department of Water Shed Management

Affiliation: University of Arizona

Address: Tucson, Arizona

Subject: "Watershed Management, A New Science"

4. Speaker: Harry F. Blaney

Title: Chairman, Water Conservation Comm., I & D Div., F.M. ASCE

Affiliation: Western Soil and Water Management Branch, ARS, USDA

Address: 1131 Bartlett Bldg., 215 W. 7th St., Los Angeles 14, Calif.

Subject: "Water Waste by Phreatophytes in Western United States"

Sponsoring Committee: Irrigation and Drainage Division of ASCE

Date: April 10, 1961--Monday P.M. Theme: Water Supply

Session Chairman: Herbert E. Prater

Title: Regional Engineer Region 7

Affiliation: U. S. Bureau of Reclamation

Address: 2001 South Madison St., Denver 10, Colorado

1. Speaker: Rolland F. Kaser
Title: Chief Planning Engineer
Affiliation: U. S. Study Commission - Texas
Address: 8980 M & N Building, Houston, Texas
Subject: "Irrigation & Drainage Studies of Texas Rivers"
2. Speaker: Dr. John F. Mann, Jr.
Title: Consulting Groundwater Geologist in So. Calif.
Address: 945 Reposado Drive, LaHabra, California
Subject: "Factors Affecting the Safe Yield of Ground Water Basins"
3. Speaker: Edward A. Moulder and Edward Jenkins
Title: District Engineers
Affiliation: U. S. G. S.
Address: Federal Center, Denver, Colorado
Subject: "Ground Water Technology to Solve Litigation Problems in Colorado"
4. Speaker: Arthur Mitchell
Title: Chief, Division of Construction and River Control
Affiliation: Colorado River Control Division of U. S. B. R.
Address: Boulder City, Nevada
Subject: "Erosion & Sedimentation of Bed of Lower Colorado River"

Sponsoring Committee: Joint Session--I & D Div. & Sanitary Div.

Date: April 11, 1961--Tuesday A. M. Theme: Re-use

Session Chairman: John Braffa, (Sanitary Division)

Co-Chairman: Paul Berg, (Irrigation & Drainage Division)

Title: Project Manager, Kansas River Projects

Affiliation: U. S. B. R.

Address: McCook, Nebraska

1. Speaker: Seldon F. Cramer
Title: Chief, Planning and Reports Branch
Affiliation: U. S. Army, Corps of Engineers
Address: 751 So. Figueroa St., Los Angeles 17, California
Subject: "Salvage of Water by Controlling Phreatophytes"
2. Speaker: Raymond Hill (Sanitary Division)
Affiliation: Leeds, Hill and Jewett (132) (SED)
Subject: "Change in Water Quality due to Irrigation in Relation to Other Water Uses"
3. Speaker: Dean E. Bishoff
Title: Area Engineer
Affiliation: U. S. B. R.
Address: P. O. Box 294, Logan, Utah
Subject: "Use of Return Flow in Irrigation Project Design"
4. Speaker: John Merrell (Sanitary Division)
Title: Special Assistant for Sanitation
Address: Eleventh Naval District, San Diego, California (123) (SED)
Subject: "Importance of Re-use of Waste Water"
5. Speaker: (Alternate) Dario Travaini (Sanitary Division)
Title: Superintendent of Water and Sewers
Address: Phoenix, Arizona
Subject: "Use and Re-use of Water as Exemplified by Phoenix Water and Sewerage Program"

Sponsoring Committee: Joint Session I & D Div. & Waterways & Harbors Div.

Date: April 12, 1961--Wednesday P. M. Theme: Research on I & D Problems

Session Chairman: Kenneth Volk, Chm., I & D Div., ASCE

Title: Consulting Engineer

Address: 7024 Melrose Ave., L. A. 38, Calif.

Co-Chairman: (to be supplied by Waterways & Harbors Div.)

1. Speaker: Sydney Davis

Title: Senior Lecturer, Technion Haifa Israel

Affiliation: Visiting Professor - Cornell University

Address: Cornell University, Ithaca, New York

Subject: "Analysis of Open Channel Critical Flow Meters"

2. Speaker: Dr. Claude L. Fly

Title: Asst. Branch Chief of Western Soil & Water Management Research Branch

Affiliation: Agricultural Research Service U. S. D. A.

Address: P. O. Box 758, Fort Collins, Colorado

Subject: "Soil Drain-Ability in Land Classification"

3. Speaker: (to be supplied by Waterways and Harbors Div.)

4. Speaker: (to be supplied by Waterways and Harbors Div.)

Sponsoring Committee: Irrigation & Drainage Div. of ASCE

Date: April 13, 1961--Thursday P. M. Theme: Water Conservation & Utilization

Session Chairman: William Donnan, Sec. Exec. Com., I & D Div., ASCE

Title: Drainage Engineer

Affiliation: Agricultural Research Service, U.S.D.A.

Address: 815 Montezuma Way, West Covina, Calif.

1. Speaker: P. W. Terrell

Title: Assistant Chief, Canals Branch

Affiliation: U. S. Bureau of Reclamation

Address: Denver, Colorado

Subject: "Low-Cost Canal Lining"

2. Speakers: D. L. Bassett and E. R. Tinney

Titles: Assistant Professor, Dept. of Agricultural Eng. and Director, Albrook Hydraulic Lab., respectively

Affiliation: Washington State University

Address: Pullman, Washington

Subject: "Advance of the Water Front in Border Irrigation"

Part 1. Mechanics of an Advancing Front - E. R. Tinney

Part 2. Laboratory Investigation of the Advance of Turbulent Flow - D. L. Bassett

3. Speaker: Boris J. Bermes

Affiliation: Analog Model Unit, Ground Water Branch

Address: Water Resources Div., U.S.G.S., Phoenix, Arizona

Subject: "Electric Analog Models to Simulate Ground Water Systems"

4. Speaker: Leonard L. Longacre

Title: Senior Civil Engineer

Affiliation: Southern California Edison Company

Address: 201 N. Sycamore Drive, San Gabriel, Calif.

Subject: "Evaporation at High Elevations in the San Joaquin River Basin, Cal."

November Meeting - Research Committee

At its meeting in Denver, Colorado on November 4 and 5, 1960 the Division Research Committee motivated a plan whereby fully documented research proposals on "Methods of reducing reservoir evaporation" and "Development of low-cost hydraulic structures for use in both conveyance systems and farm distribution systems" would be solicited, reviewed and placed before the Society Research Committee for approval and assistance in financing. The Committee had previously compiled, from the replies to the questionnaire sent out some time ago, a list of 29 subjects in the field of irrigation and drainage needing basic research. The two subjects were selected recently from this compilation as priority items to be concentrated upon.

The Committee considered and endorsed in principle a proposal submitted by Norman A. Evans and A. R. Robinson to establish an annual summary of research in progress in the U. S. in the field of irrigation and drainage. A publication similar to "Current Research in Hydraulics in the U. S." published by the National Bureau of Standards is proposed. The consensus was that such a publication would be very valuable to those conducting research in our field of interest.

Plans were made for technical sessions to be sponsored by the Research Committee at the Phoenix and Houston Conventions of the Society.

A joint meeting with the division executive committee was held during the forenoon of the second day. Norman A. Evans, Head, Department of Agricultural Engineering and Bernard Frank, Professor of Watershed Management, both of Colorado State University were present at the joint meeting and at the final half day session of the Research Committee meeting to discuss research proposals.

MANUAL ON GROUND WATER BASIN MANAGEMENT

The Committee on Ground Water of the Irrigation and Drainage Division has completed the newest in the series of ASCE Manuals on Engineering Practice. This Manual (No. 40) is concerned with the operation and management of ground water resources for irrigation and other beneficial uses. The Manual will find its field of greatest use in the planning of water development projects and in designing and programming facilities for the controlled conjunctive operation of surface and ground water reservoirs in order to make maximum use of available water supplies. Copies of the ASCE Manual No. 40 can be obtained by use of the attached coupon. The list price is \$4.00, with ASCE members and public and school libraries receiving a 50% discount.

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SEWER DESIGN AND CONSTRUCTION MANUAL REPRINTED

ASCE Manual 37 "Design and Construction of Sanitary and Storm Sewers," issued in early 1960 as a joint effort with the Water Pollution Control Federation, has now been reprinted with corrections to several pages.

Those who have a copy of the 1960 edition can obtain, with the compliments of the Society, a reprint containing those pages that have been corrected for the 1961 printing. This reprint can be cut apart and the pages inserted into the previous edition.

The twelve-chapter manual contains 283 pages of text, 102 illustrations, 24 tables, and 119 references. As the first extended collection of information on the subject, it will make a valuable reference in an important phase of wastewater technology. Individual subjects covered include organization and administration of sewer projects, surveys and investigations, quantity of sanitary sewage and storm water, hydraulics of sewers, design of sewer systems, appurtenances and special structures, materials for sewer construction, structural requirements, construction plans and specifications, construction methods, and pumping stations.

The manual may be ordered by use of the coupon herewith. The list price is \$7.00 per copy; ASCE members and public and school libraries can order copies at a price of \$3.50 each. The price to members of WPCF is the same, upon application to that organization.

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